

REMARKS

Applicants thank the Examiner for acknowledging that claims 15 and 18 are allowable.

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 10, 13, 14, 16, 17 and 18 are currently being amended.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 10-18 are now pending in this application.

Claim Rejections under 35 U.S.C. § 101

Claims 13 and 16 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. In view of the amendments to claim 13 and 16 and the reasons set forth below, Applicants respectfully request that the rejections be withdrawn.

35 U.S.C. § 101 recites four categories of patent-eligible subject matter: processes, machines, manufactures, and compositions of matter. *See In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008). Here, the issue involves what the term “process” in § 101 means and whether claims 13 and 16 are a new and useful “process.” A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. *See id.* Thus, “an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), citing *Gottschalk v. Benson*, 409 U.S. at 70 (1972).

Here, claims 13 and 16 recite a process that is tied to a particular machine. For example, both claims 13 and 16 recite that the claimed methods are “employed in a medical support system.” Further, claim 13 recites the step of “storing the class map generated at the

generating step into a storage unit” and claim 16 recites the step of “storing the secondary class map and the inter-class distance master in a storage unit.” Accordingly, because the methods claimed in claims 13 and 16 are employed in a medical support system and recite a step of storing information in a storage unit, they are tied to a particular machine and therefore recite statutory subject matter under 35 U.S.C. § 101.

Claims 14 and 17 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. In response, Applicants have amended claims 14 and 17 to recite “a computer-readable medium encoded with a computer program” as suggested by the Examiner. Accordingly, Applicants request that the rejection be withdrawn and claims 14 and 17 be allowed.

Claim Rejections under 35 U.S.C. § 102

Claims 10-14 were rejected under 35 U.S.C. § 102(a) as being anticipated by “Clustering and 3D visualization of Leukocyte scattergrams” Medical Information, Vol. 22, 2002, pages 209-210 (“Kataoka”). Claims 10-11, 13 and 15 were rejected under 35 U.S.C. § 102(b) as being anticipated by “Self-organizing maps, vector quantization, and mixture modeling” IEEE Transactions on neural networks, Vol. XX, No. Y, pp. 1-7 (2001) (“Heskes”). Concerning claim 15, the Office Action states on page 8 that it is allowable. Accordingly, Applicants assume that only claims 10-11 and 13 were rejected in view of Heskes.

In response, without agreeing or acquiescing to the rejection, Applicants have amended independent claims 10, 13 and 14. Further, Applicants respectfully traverse the rejection for the reasons set forth below.

Applicants rely on M.P.E.P. § 2131, entitled “Anticipation – Application of 35 U.S.C. § 102(a), (b) and (e)” which states, “a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”

Applicants respectfully submit that Kataoka and Heskes do not describe each and every element of the claims.

Independent claim 10 is directed to a “similar-pattern searching apparatus for searching a pattern having a high similarity to a target pattern of a test sample from a group of patterns including a plurality of patterns” comprising in addition to other elements “a storage unit that stores therein a class map generated by selecting model parameters that characterize a plurality of component fractions included in each pattern in the group and by clustering the patterns based on selected model parameters, *the model parameters including a number, an average, a variance and a density for the plurality of component fractions*; and a similar-pattern searching unit that selects a class similar to a component fraction included in the target pattern from the class map in the storage unit, *wherein the similar-pattern searching unit that detects the class based on similarity distance from a target class, which is equal to or smaller than a predetermined threshold, and that determines the pattern included in the class as a pattern having a high similarity to the target pattern*” (emphasis added).

Independent claims 13 and 14 recite similar limitations.

Kataoka

In contrast, Kataoka does not disclose, teach or suggest each and every element recited in independent claims 10, 13 and 14.

Kataoka is directed to a technique for clustering and 3D visualization of leukocyte scattergrams. Kataoka discloses creating a large database of leukocyte scattergrams, clarifying a characteristic pattern using a data mining technique, 3D visualization and similarity search functionality.

However, creating a large database of leukocyte scattergrams is not identical to storing “a class map generated by selecting model parameters that characterize a plurality of component fractions included in each pattern in the group and by clustering the patterns based on selected model parameters, *the model parameters including a number, an average, a variance and a density for the plurality of component fractions*.” Further, clarifying a characteristic pattern using a data mining technique, 3D visualization and similarity search functionality is not identical to selecting “a class similar to a component fraction included in the target pattern from the class map in the storage unit, wherein the similar-pattern searching

unit that detects the class based on similarity distance from a target class, which is equal to or smaller than a predetermined threshold, and that determines the pattern included in the class as a pattern having a high similarity to the target pattern.”

Accordingly, Kataoka fails to disclose, teach or suggest each and every element of independent claims 10, 13 and 14.

Heskes

Similarly, Heskes does not disclose, teach or suggest each and every element recited in independent claims 10 and 13.

Heskes is directed to self organizing maps, vector quantization and mixture modeling. Generally, Heskes discusses self-organizing maps which are used for clustering and visualization of high-dimension data. The Office Action essentially sites the entire article as disclosing each element of independent claims 10 and 13. However, a careful reading of Heskes will reveal that it does not disclose each and element of amended independent claims 10 and 13. For example, Heskes does not disclose storing “a class map generated by selecting model parameters that characterize a plurality of component fractions included in each pattern in the group and by clustering the patterns based on selected model parameters, *the model parameters including a number, an average, a variance and a density for the plurality of component fractions.*” Further, Heskes does not identically disclose selecting “a class similar to a component fraction included in the target pattern from the class map in the storage unit, wherein the similar-pattern searching unit that detects the class based on similarity distance from a target class, which is equal to or smaller than a predetermined threshold, and that determines the pattern included in the class as a pattern having a high similarity to the target pattern.”

Accordingly, Heskes fails to disclose, teach or suggest each and every element of independent claims 10 and 13.

M.P.E.P. § 2131 states that “[t]he identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236

(Fed. Cir. 1989). The elements must be arranged as required by the claim. *See In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Here, Kataoka and Heskes fail to disclose each and every limitation in as complete detail as is contained in amended independent claims 10, 13 and 14.

Accordingly, Applicants respectfully request that the rejection be withdrawn and independent claims 10, 13 and 14 be allowed. Further, claims 11 and 12 depend from claim 10 and should be allowed for the reasons set forth above without regard to further patentable limitations contained therein.

If this rejection of the claims is maintained, the examiner is respectfully requested to point out where the above-mentioned features are disclosed in Kataoka and Heskes.

Claim Rejections under 35 U.S.C. § 103

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Heskes in view of Nishikiori. As set forth above, Heskes fails to disclose, teach or suggest each and every limitation of independent claim 10. Claim 12 depends from independent claim 10 and should be allowed for the reasons set forth above without regard to further patentable limitations contained therein. Accordingly, Applicants request that the rejection be withdrawn.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect

information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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